GUIDELINES FOR HABITAT DEVELOPMENT

This section of the Wetlands Management Plan addresses the techniques for creating wetlands along the river. Contained herein are guidelines and requirements for the creation and improvement of wetland habitats and a description of the extent and types of plantings to be used. Figure 25 illustrates how wetlands should be incorporated into river channel design. A list of recommended plant species for revegetation is provided in Appendix D.

CREATION OF WETLANDS HABITAT

Since wetlands will be an integral part of a flood-control facility, channel design shall incorporate a wetlands corridor composed of the following distribution of habitat types.

Open Water	20-40%
Freshwater Marsh	25-35%
Riparian Woodland	35-45%

Individual segments of the channel should incorporate the same guidelines so that this distribution will be effective valley-wide.

Islands should be created within the open water area to provide shelter and habitat diversity for wildlife. Islands should cover approximately 5-15% of the length of any particular segment of the river channel. If, for hydraulic reasons, it is not possible to incorporate islands into the floodway, a corresponding quantity of marsh and woodland habitats should be created. Channel design should maximize the retention of existing vegetation, particularly mature woodland. Existing vegetation can be incorporated into the channel banks or islands. Where existing vegetation must be distributed by the establishment of the facility, the channel shall be revegetated to create a wetlands corridor.

Mitigation will be directed to areas of upland habitat or areas where natural wetlands have been degraded or no longer exist. In these areas, wetlands should be developed or restored by the creation of new wetland habitats which generally follow the distribution outlined above. This distribution can be altered if site-specific evaluation identifies a need for the concentration of a particular habitat type.

BIOLOGICAL REQUIREMENTS

To maximize the potential wildlife value of the habitat, the following biological requirements must be incorporated into compensation and flood channel proposals.

- Use only appropriate plants native to coastal southern California in revegetation.
- Create vertical and horizontal plant diversity.
- Incorporate both mixed and pure stands of trees.

- Create an irregular rather than straight shoreline or border between habitat types to maximize the amount of edge between habitat types.

- Create wildlife nodes or areas of concentration where vegetation is especially dense and extensive.

- Use specialized plantings to serve as barriers to human access in wildlife nodes or in areas with little or no buffer between the wetlands and development. Specialized plantings would consist of brambly species or those with a thicket-like growth form that would discourage human access.

- Dredging and construction of a floor-channel should not disrupt breeding which occurs from April 1 - August 1. Clearing of vegetation should be accomplished prior to April 1. If this is not practicable, there must be a phasing plan that provides for the retention of natural vegetation within the same river section.

DESCRIPTION OF HABITAT PLANTINGS

A description of the habitat types and composition to be created in revegetating the floodway is provided below.

Riparian Woodland

Riparian woodland should consist of two association types: cottonwood and willow, as defined below.

- The cottonwood association should consist of the following elements in roughly these proportions: cottonwoods, 50%; willows (should be at least two species: *Salix gooddingii var variabilis, S. lasiandra, S. laevigata, S. lasiolepis)*, 30%; Sycamore, 5%; shrubs and herbs, 15%.

- The willow association should consist of the following elements in approximately these proportions; willows, 70%; cottonwood 15%; shrubs and herbs, 15%.

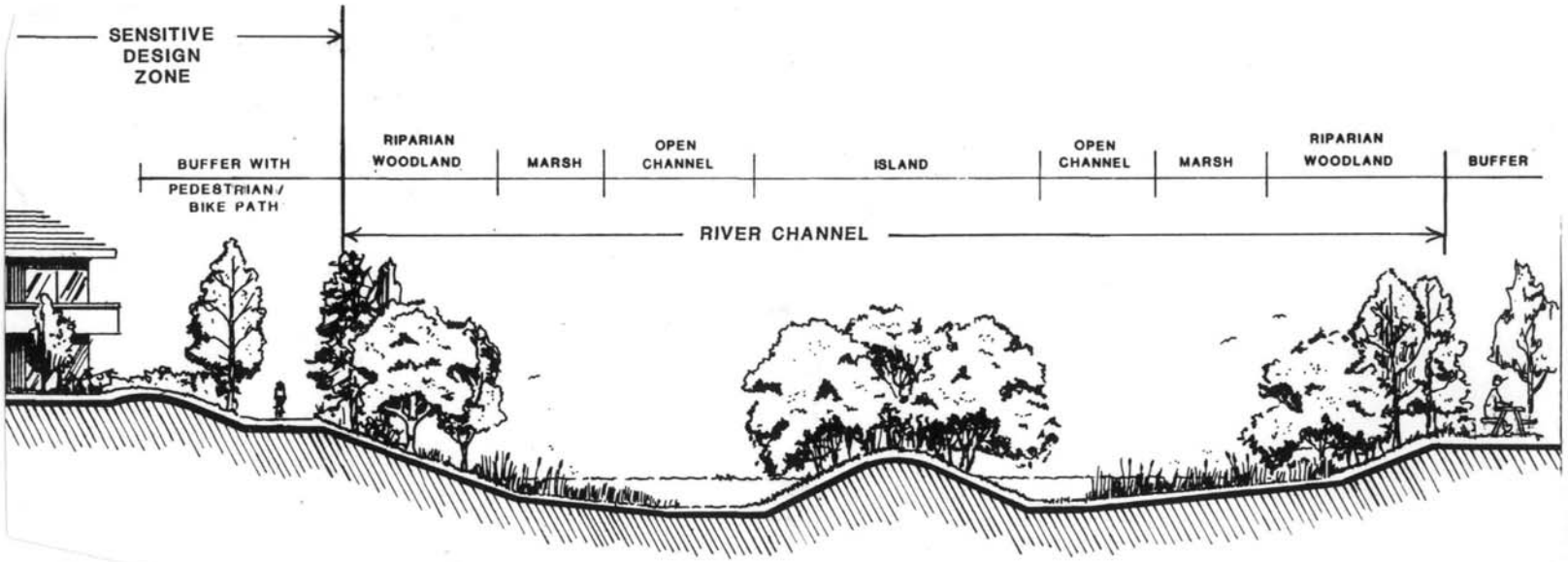
Trees should be unevenly spaced with a density of roughly 100 trees per acre. A description of the riparian woodland elements identified above is as follows:

- Cottonwood - Fremont cottonwoods should be planted in groves, in association with willows.

- Willow - This should be a mix of the willow species listed above and should always include *Salix gooddingii var. variabilis* and be accompanied by the shrub-herb riparian association.

- Western Sycamore - Plant in open groves toward the top of the bank.

- Coast Live Oak - These trees may occasionally be used in dry, transition areas and on top of banks.



CITY OF SAN DIEGO
PLANNING DEPARTMENT

CROSS-SECTION OF RIVER CHANNEL DESIGN

MISSION VALLEY COMMUNITY PLAN

FIGURE
25

- Shrub-Herb Riparian Association - This planting should include flowering and fruiting native shrubs, vines and herbs adapted to coastal floodplain habitats. This association should form the predominant understory for the riparian woodland, and occur in woodland openings. Wild rose (*Rose californica*) and California blackberry (*Rubus ursinus*) should always be included in this plant association.

Freshwater Marsh

Freshwater marsh vegetation should be allowed to establish naturally near the water's edge river banks, backwater ponds, and surrounding islands.

Groundcover

Groundcover should be used to provide food and cover and control erosion in areas where vegetation has been cleared and/or revegetated. Groundcover can be planted by hydroseeding with a mix which includes species of food value, such as doveweed or sweet clover, and does not include nonnative weedy species.

QUANTITATIVE AND QUALITATIVE MITIGATION REQUIREMENTS

It is a policy of this plan that there shall be no net reduction of wetlands and that mitigation for projects affecting wetlands shall contribute to the overall qualitative improvement of the resource. The following requirements have been designed to ensure that the overall quantity and quality of the wetlands are maintained.

In general, wetlands shall be replaced on an acre-for-acre basis. Individual habitat types shall also be replaced on this basis unless it is determined that an alternative habitat would be of greater value. Loss of FW land containing nonwetlands shall generally be compensated by the creation of wetlands on an acre-for-acre basis. A less than acre-for-acre compensation would be acceptable where wetlands are restored by incorporating a wetlands corridor into a flood control system in an area of the floodway presently devoid of wetlands habitat (i.e., the golf course in Section 2). This reduced mitigation is predicated on the fact that the creation of a wetlands corridor which meets the biological requirements of this plan would significantly contribute to the overall enhancement of the habitat value of the San Diego River wetlands.

Mitigation for the loss of riparian woodland requires special treatment to ensure that the habitat value is offset. Wooded wetlands, especially those dominated by mature trees, are of high habitat value and their reconstruction cannot rapidly or with certainty provide an equivalent value to that destroyed. Therefore, compensation for the loss of woodland must meet additional requirements.

These include:

- Revegetation shall be according to state-of-the-art techniques;
- Trees to be planted shall vary in size and include trees of large stature;
- The newly-created woodland shall be of limited accessibility and protected from human disturbance;
- There shall be milestones for identifying deficiencies in the revegetation effort;
- There shall be a means of assuring that corrective action will occur in a timely manner; and
- There shall be a means of assuring the long term preservation of the habitat.

If these requirements cannot be met, compensation for the loss of woodland shall be at a ratio of 2:1 (two acres replaced for each acre lost) or greater to provide an equivalent habitat value.

CRITERIA FOR DEVELOPMENT ADJACENT TO THE FLOODWAY

Although development adjacent to the floodway may not directly eliminate natural habitats, it could have indirect effects on wildlife associated with the river. A sensitive zone extending 150 feet from the wetlands corridor requires special consideration to protect the wildlife value of the wetlands corridor. To minimize impacts and protect the wildlife value of the wetlands, the following criteria should be incorporated into development plans within this sensitive zone.

- A buffer area between the wetlands corridor and development is required along the entire length of both sides of the river. The buffer will serve as a biologic feature primarily and as an aesthetic feature secondarily. The biological function of this buffer would be to provide separation and screening of the wildlife habitat from human activity associated with development. It will also provide habitat edge and diversity, as well as additional cover, forage and roosting opportunities. At no particular location shall buildings intrude into the wetlands corridor. The actual width of the buffer mat vary depending on the type of development proposed, sensitivity of the habitat to be protected, and manner in which the buffer is treated. However, the average width of the buffer shall not be less than 20 feet. This buffer area should be planted with appropriate vegetation native to coastal southern California. Land uses within the buffer areas shall be limited to bikeways, walkways and passive recreation uses described below.

- Public recreation along the river corridor should include only passive uses such as hiking, nature study, viewing, and picnicking. Designated pathways should be located along the outer edges of the wetlands and lead to specified recreation areas. Access to the wetlands in other areas should be discouraged through the use of specialized plantings.

- Buildings should be designed so that the skyline slopes down toward the wetlands. Low-story buildings should be located closest to the floodway channel with high-rise buildings away from the floodway. This will allow a wider flight path for birds.

- Reflective plate glass should not be used on building facades which face the river. In a wooded setting, reflective plate glass buildings cause high bird mortality.

- Lighting as required for safety must be directed rather than general and should not illuminate habitat areas.

IMPLEMENTATION

RELATION TO COMMUNITY PLANS

Planning for the protection of resources associated with the San Diego River is an integral part of the Mission Valley Community Plan. As such, the Wetlands Management Plan is an element of that community plan. The Wetlands Management Plan should be used in conjunction with the other elements of the community plan to guide development along the San Diego River in Mission Valley.

Since the Wetlands Management Plan includes a portion of the Navajo Community Plan area, the plan should also be used to guide development in the Navajo community. Upon adoption of the wetlands plan as part of the Mission Valley Community Plan, the Navajo Community Plan will be amended to incorporate the Wetlands Management Plan.

FEDERAL AND STATE AGENCY PERMITS AND AGREEMENTS

In addition to permits from the City of San Diego, project applicants will be required to obtain a U.S. Army Corps of Engineers 404 Permit and a California Department of Fish and Game 1601/1603 Agreement for projects which involve alteration of wetlands and the streambed of the San Diego River. The Wetlands Management Plan was undertaken, in part, to facilitate and expedite the federal and state permit process. This plan provides the basis for a common understanding among government agencies, including the City of San Diego, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and California Department of Fish and Game, and private interests, regarding projects affecting wetlands and the manner in which wetlands mitigation is to be accomplished. Representatives of the U.S. Fish and Wildlife Service and the California Department of Fish and Game actively participated in the preparation of this plan to ensure that the mitigation requirements are consistent with the policies of their agencies. Therefore, it is anticipated that projects which have been planned in conformance with the Wetlands Management Plan will meet the requirements of the other agencies, and permit processing can be simplified and the time minimized. This will provide increased certainty to applicants concerned with the protection of wetlands.

Federal and state resource agencies will be notified of all activities relating to the Wetlands Management Plan, including applications for land development and floodway modification proposals. A mitigation plan for individual projects shall also be submitted to these agencies. This will allow resource management agencies an early opportunity to review and comment on these projects. If approval of the mitigation plan is obtained during the City's review process, federal and state permit processing will be greatly expedited.

DEVELOPMENT RESPONSIBILITIES

The Wetlands Management Plan covers two general categories of proposals: 1) channelization of the San Diego River; and 2) development within the floodway which would eliminate existing habitat. Proposals in either of these categories incur a responsibility for mitigation due to their direct or indirect effect on wetlands. It shall be the responsibility of the applicant to plan, carry

out and maintain the mitigation effort. The applicant is also responsible for consulting with the state and federal resource agencies early in the planning process. A list of agencies for consultation is included in Appendix E.

MITIGATION PLANNING: In conjunction with any development plans, the project applicant shall have a biological consultant conduct a site-specific field survey to determine the type and extent of vegetation on the project site and to identify mitigation sites. The field work and consultation must be performed by a qualified biologist with wetlands experience.

The applicant shall submit a revegetation plan, prepared by the biological consultant who may work with the applicant's landscape architect and/or planner, to outline a mitigation proposal. The revegetation plan shall contain a landscape architect and/or planner, to outline a mitigation proposal. The revegetation plan shall contain a landscape plan and address in detail the compensation concept and design criteria, the types and extent of habitats to be developed, plant materials to be used, method of planting, plans for management maintenance and monitoring of the revegetation and treatment of the interface between development and the river corridor. If the plan calls for the replacement of riparian woodland, it shall also demonstrate how the specific mitigation requirements will be met. The revegetation plan shall be reviewed and approved by the City before project approval.

There shall be a binding mechanism to assure that the applicant will carry out and maintain the mitigation effort as planned. This binding mechanism can be in the form of a bond, an agreement as part of an assessment district established to fund a flood-control channel, or other means of assuring that funds will be available to complete the mitigation program.

MITIGATION IMPLEMENTATION: The mitigation program shall be carried out according to the revegetation plan preceding or coincident with project construction. Trees shall be planted in holes which are augured to groundwater level. An irrigation system shall be installed to water plants until they have become established.

MITIGATION MAINTENANCE: The applicant shall be responsible for maintaining the mitigation wetlands for five years from the date the planting has been completed. Two maintenance programs: replacement of vegetation and elimination of undesirable species shall be performed as part of the mitigation effort.

REPLACEMENT OF VEGETATION: All trees and shrubs which die or are otherwise damaged in the first five years due to flooding, disease, over-rot under-watering, vandalism, etc., shall be replaced by the applicant. Vegetation shall be monitored on a regular basis and shall be replaced as needed to fulfill the conditions of the revegetation plan.

ELIMINATION OF UNDESIRABLE SPECIES: In order for mitigation wetland areas to become successfully established, nonnative plants which compete for light and space must be controlled. The four most invasive undesirable species that must be removed are giant reed (*Arundo donax*), castor bean (*Ricinus communis*), pampas grass (*Cortaderia ata camensis*), and tamarisk *(Tamarix spp*.). These plants should be removed biannually during the five year maintenance period. Once removed, the plants should be transported to a landfill for disposal.

The revegetation plan shall include a monitoring program to determine the success of the mitigation program and identify maintenance needs. The mitigation site shall be monitored periodically (at least once a year) to obtain information regarding the species and quantity of plants present and their growth. An annual report of the results of the monitoring effort shall be prepared and submitted to the City. The report shall address plant survival, vegetation cover, the success of establishing designated cover types, and recommended actions necessary to accomplish full mitigation.

CITY REVIEW PROCEDURES

The City Planning Department will review development proposals to determine conformity with the Wetlands Management Plan Project plans along with the revegetation plan shall be reviewed by the Environmental Quality Division to ensure that the project meets the requirements and objectives of the wetlands plan. In addition, the California Environmental Quality Act (CEQA) process will be used to assess the environmental consequences of development proposals and identify mitigation measures and alternatives to reduce impacts to wetlands.

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